E X E C U T I V E S U M M A R Y

Nuclear Fuels Services Incorporated

Lucky Strike/Tony M Mines M/017/001 Garfield County, Utah

Updated 1-8-89

#### COMMODITY:

The Lucky Strike/Tony M. Mine is a pre-existing uranium mine. Hydro-jet previously worked these claims until 1977 when Plateau Resources acquired the claims and lese hold interests. Ore recovery is by the underground modified room and pillar method. The mine life is projected to be 10-15 years.

#### LOCATION:

The Lucky Strike/Tony M. Mine is a 55 acre mining operation located in Sections 16 and 21, Township 35 South, Range 11 East, SLBM in Garfield County, Utah. This location is 55 miles south of Hanksville and 15 miles north of Bullfrog Basin via State Route 276 in Shootering Canyon.

The enclosed map shows the location of this mine.

#### GEOLOGY AND SOILS:

The mining site is located within the Henry Mountains Basin and is characterized by buttes, mesas and canyons. The buttes and mesas in this area are capped by the Salt Wash Member of the Morrison Formation. This sandstone unit contains the uranium deposits which are mined in the area. The site elevations are approximately 4,600 to 5,000 feet a.s.l.

Soils in the area are generally low in organic matter and range in texture from sand to loamy-fine sand. Any topsoil encountered from development will be stockpiled.

## **HYDROLOGY:**

Surface waters in the vicinity of the sites consist of Shootering and Hansen Creeks which flow into Lake Powell. These streams have been categorized as Class C. waters which means that without treatment these waters are suitable for irrigation, stock watering, recreation and the propagation and perpetuation of fish and wildlife. Baseline water quality sampling has been done by the U.S. Nuclear Regulatory Commission for the Environmental Statement related to the proposed uranium processing facility at the site. It is presumed that surface drainage at the site will not be affected.

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Groundwater at the site is important for its potential source of water supply. The Entrada and Navajo sandstones contain the primary aquifers in the area and several springs exist in the vicinity. The area of mining is dry, however, and it is not expected that groundwater will be encountered.

#### **ECOLOGY:**

Studies of the ecology of this area were conducted in 1977 for the Environmental Report for the proposed uranium processing facility. Vegetative plant cover varies between 15% and 25% and is dominated by blackbrush and Mormon tea. Wildlife diversity of the area is very low. The site is of little importance to deer. No endangered species have been identified in the area.

#### STRUCTURES AND FACILITIES:

The major portion of structures and facilities at the Lucky Strike/Tony M. site consist of the camp facilities which house the mine workers. The mine facilities consist of trailers for the office and bathhouse, the water tank, the generator station, the waste dump area and the ore storage bins. The camp facilities will be relocated in the spring of 1980 and that area will be reclaimed as soon afterwards as possible.

#### MINING AND RECLAMATION:

# During Operations (Lucky Strike/Tony M. Mine):

- 1. Mine development entry will commence from the cliff wall adjacent to previous mine openings. Mining and maintenance methods will be carried out in a safe and orderly manner. Disturbed materials will be waste and they will be allowed to seek their natural angles of repose. Waste rock will be used to maintain a low, wide area for surface operation use.
- Access roads in present use will be used for the mining project. The roads will have approximately 11% grades.
- 3. Site preparation will be completed by grading existing waste rock for level entry. No removal of trees or brush is necessary.

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- 4. Any upper horizon material encountered will be stockpiled in an independent area for final reclamation.
- 5. Plant species for revegetation will be determined from test plot data.

## After Operations (Lucky Strike/Tony M Mine):

- 1. Portal and ventilation shafts will be sealed to prevent unauthorized or accidental entry.
- 2. Waste rock dumps will be contoured to a naturally draining configuration.
- 3. Extraneous debris, unusable buildings, and scrap metal and wood will be removed from the location or buried.
- 4. All disturbed surfaces will be regraded, stockpiled soil added, and seeded.
- 5. Maintenance procedures for revegetation will be accomplished as necessary. The site will be checked at least biannually by mine personnel who will immediately augment any necessary steps in revegetation or erosion control. Critical sites and those not responding as projected will be checked more often.

#### **IMPACTS:**

The Lucky Strike/Tony M mine facilities were in existence prior to the Utah Mined Land Reclamation Act under the direction of Hydro-Jet Services Inc. The reclamation plan will eliminate safety hazards and reduce environmental impacts.

Primary uses of the area are for grazing and mineral exploration and mining. Extensive uranium exploration has occurred since the 1940's. Many of the abandoned drill roads and pads in the vicinity of the mine have been reclaimed by Plateau. Impacts to the environment due to development of this mine are expected to be minimal since the area has been determined to be of limited use to wildlife and hydrology.

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## **SURETY ESTIMATE:**

Surety is estimated at \$148,000 for reclamation of the Lucky Strike/Tony M. A copy of the estimates are attached.

# APPLICATION HISTORY (Lucky Strike/Tony M. Mine):

May 1977	Mining claims, leasehold interests and a
	leaching facility were acquired from
	Hydro-Jet Services by Plateau Resources,
	Litd.

June 1977	Mining and Reclamation plans were
	submitted to the Division.

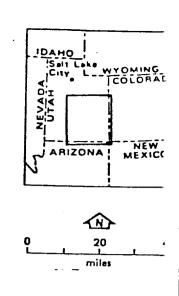
February 1977	Amendments to	the Mining	and Reclamation
	nlan were gub	mitted to t	he Division

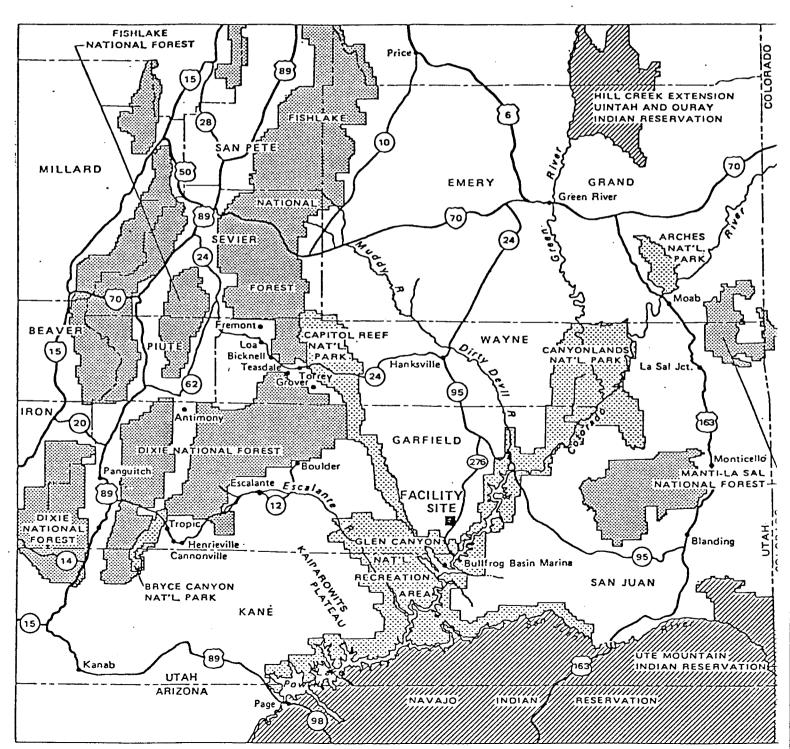
March 1979	Division personnel inspe	cted the mine
	and proposed mill site.	

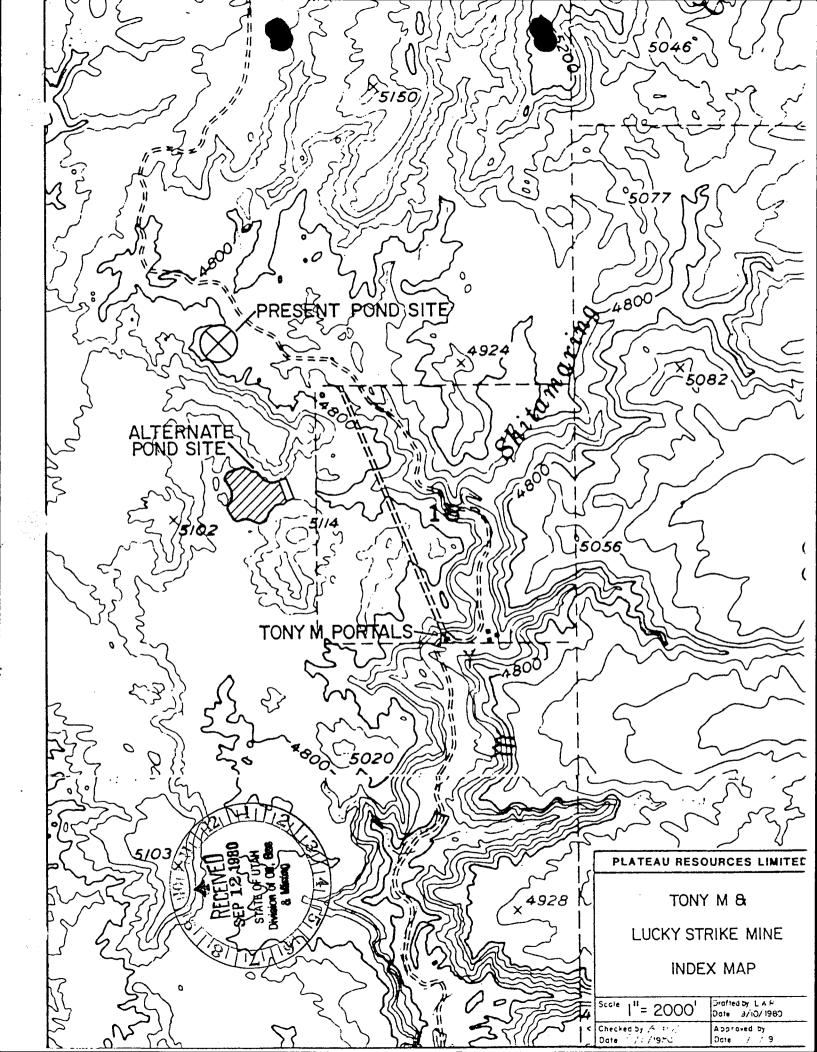
August 1989	Mine was transferred to a new operator:
	Nuclear Fuels Services, Inc. The
	operator provided a temporary \$187,000
	collateral reclamation surety. The
	surety covered two sites, the Tony M.
	and the Frank M.

January 1990 Nuclear Fuels Services, Inc. provided a re-estimated reclamation surety.

jb Attachment M017001.1







# Reclamation Estimate for the Tony M and Lucky Strike Mines M/017/001

Prepared By Utah State Division of Oil, Gas and Mining November 10, 1989

Description	Quantity	Unit	\$/Unit	Total Cost (\$)
Tony M Facilities Reclamation				<del></del>
Demolish and Dispose of Buildings (2) Demolish and Dispose of Ore Bins	11,000	Square Feet Lump Sum	2.90	31,900 15,000
Regrade Waste Dumps	5	Acres	800	4,000
Construct Bulkheads 100' Inside Portals Backfill to Bulkheads	3,000	Lump Sum Cubic Yards	0.65	6,000 1,950
Remove Trash	55	Acres	100	5,500
Grade for Uniformity Revegetate (a)	55 55	Acres Acres	400 447	22,000 24,590
•			,	
Subtota1				110,940
Lucky Strike Reclamation (b)				
Construct Bulkheads 100' Inside Portals Backfill to Bulkheads	3,000	Lump Sum Cubic Yards	0.65	6,000 1,950
Revegetate (a)	8.2	Acres	447	3,670
Subtotal				11,620
Subcocai				11,020
Totals				122 560
Add Contingency (10%)				122,560 12,260
TOTAL RECLAMATION COST (1989 Dollars)				134,820
TOTAL RECLAMATION COST (1994 Dollars) @ 1	.93% Annı	ual Inflation		148,000

## Notes:

<sup>(</sup>a) Test plots were initiated in 1987 by Plateau. The success of these plots will determine the required revegetation method.(b) The waste dumps at this mine are mostly pre-law and do not require reclamation.

# Reclamation Estimate for the Tony M and Lucky Strike Mines M/017/001

Prepared By Utah State Division of Oil, Gas and Mining November 10, 1989 (continued)

Revegetation Cost per Acre	Quantity	Unit	\$/Unit	Total Cost (\$)	
Bare Costs Fertilizer	100	Douada	0.25	25	
Seed Mix	100	Pounds Pounds	0.25 9.00	25 180	
Native Hay Mulch	20	Tons	50	100	
nacive may haven	4-	10113	30		
Subtotal				305	
Application Costs					
Native Hay Mulch (spread by hand)	3.0	Hours	24	72	
Native Hay Mulch (disc into ground)	0.3	Hours	67	23	
Fertilizer (broadcast by hand)	0.5		24	12	
Seed Mix (drilled)		Hours	24	12	
Scarify (tractor with chain)	0.3	Hours	67	23	
Subtotal				142	
Total Revegetation Cost per Acre				447	

FORM MR-RC
Revised 2/17/89
RECLAMATION CONTRACT

File	Number	·	
Effec	tive I	ate	

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
(801) 538-5340

# RECLAMATION CONTRACT

	00	000			
For the podefined as fo	urpose of this RECLAM 11ows:	ATION CONTRACT the terms below are			
"NOTICE OF IN	TENTION" (NOI): (File	No.) Act/017/001			
	(Mineral Min	ned)Uranium			
"MINE LOCATION	N'':				
	(Name of Mine)	Tony M and Lucky Strike Mines			
	(Description)	Underground mine located in			
	-	the eastern portion of Garfield			
	-	County, Utah			
"DISTURBED ARI	EA'': (Disturbed Acres) _	55 Acres			
		Exhibit A			
''OPERATOR'':	(Company or Name) _ (Address)	Nuclear Fuel Services, Inc.  205 Banner Hill Road  Erwin, Tennessee 37061			
	(Phone No.)	(615) 743-9141			

"OPERATOR'S REGISTERED AGENT":	F. Alan Fletcher
(Name)	Pruitt, Gushee & Fletcher
(Address)	1850 Beneficial Life Tower
	Salt Lake City, UT 84111
(Phone No.)	(801) 531-8446
"OPERATOR'S OFFICER(S)":	Paul F. Schutt
	4
"SURETY":	
(Form of Surety - Exhibit B)	Letter of Credit
"SURETY COMPANY":	
(Name, Policy or Acct. No.)	North Carolina National Bank
"SURETY AMOUNT":	
(Escalated Dollars)	\$148,000.00
"ESCALATION YEAR"	
"STATE":	State of Utah
"DIVISION":	Division of Oil, Gas and Mining
"BOARD":	Board of Oil, Gas and Mining
EXHIBITS:	Revision Dates:
A "DISTURBED AREA":	
B USHRETYU.	

This Reclamation Contract (hereinafter referred to as "Contract") is entered into between Operator and the Board.

WHEREAS, Operator desires to conduct mining operations under Notice of Intention (NOI) File No. Act/017/001 which has been approved by the Division under the Utah Mined Land Reclamation Act, Sections 40-8-1 et seq., Utah Code Annotated, (1953, as amended) (hereinafter referred to as "Act") and implementing rules; and

WHEREAS, Operator is obligated to reclaim the Disturbed Area in accordance with Operator's approved Reclamation Plan and Operator is obligated to provide surety in form and amount approved by the Board, to assure reclamation of the Disturbed Area.

NOW, THEREFORE, the Board and the Operator agree as follows:

- 1. Operator agrees to conduct reclamation of the Disturbed Area in accordance with the Act and implementing regulations, the Notice of Intention, and the Reclamation Plan.
- 2. Concurrent with the execution hereof, Operator has provided surety to assure that reclamation is conducted, in form and amount acceptable to the Board, which surety is in the form of the surety attached hereto as Exhibit B and made a part The surety shall remain in full force and effect according to its terms unless modified by the Board in writing. If the surety contract expressly provides for cancellation, then, within 60 days following the Division's receipt of notice that the Surety Company intends to cancel the reclamation bond, the Operator shall provide a replacement bond in a form and amount acceptable to the If the Operator fails to so provide an acceptable replacement bond, the Division may order the Operator to cease further mining activities and to begin reclamation of the site.

- 3. Operator agrees to pay public liability and property damage claims resulting from mining as determined by the Board or the Division, to the extent provided in the Act.
- 4. Operator agrees to perform all duties and fulfill all reclamation requirements applicable to the mine as required by the Act and implementing rules, the Notice of Intention, and the Reclamation Plan.
- 5. The Operators liability under this Contract shall continue in full force and effect until the Division certifies that the Operator has reclaimed the Disturbed Area in accordance with the Act and implementing rules, the Notice of Intention and the Reclamation Plan.
- 6. Operator agrees to indemnify and hold harmless the State, Board and Division from any claim, demand, liability, cost charge, suit, or obligation of whatsoever nature arising from the failure of Operator or Operator's agents, and employees, or contractor to comply with this Contract.
- 7. Operator may, at any time, submit a request to the Board to substitute surety. The Board, in its sole judgment and discretion, may approve such substitution if the substitute surety meets the requirements of the Act and the implementing rules.
- 8. This Contract shall be governed and construed in accordance with the laws of the State.
- 9. If Operator shall default in the performance of its obligations hereunder, Operator agrees to pay all costs and expenses, including attorneys fees and costs incurred by the Division and/or the Board in the enforcement of this Contract.

- 10. Any breach of the provisions of this Contract by Operator may, at the discretion of the Division, result in an order to cease mining operations. After opportunity for notice and hearing, the Division, or Board, as appropriate, may revoke the Notice of Intention, order reclamation, or order forfeiture of the Surety, or take such other action as is authorized by law.
- 11. In the event of forfeiture of the Surety, Operator shall be liable for any additional costs in excess of the surety amount which are required to comply with this Contract. Any excess monies resulting from forfeiture of the Surety, upon completion of reclamation and compliance with this Contract, shall be returned to the rightful claimant.
- 12. This Contract represents the entire agreement of the parties involved, and any modification must be approved in writing by the parties involved.
- 13. Each signatory below represents that he/she is authorized to execute this Contract on behalf of the named party.

SO	AGREEI	) th	is			day	of _	Jā	nuary	 _ <b>19</b> _9
API	PROVED	AS	то	FORM	AN:	D AM	OUNT	OF	SURETY:	
Ву	Chairn	nan,	Во	ard ·	of (	 0i1,	Gas	and	Mining	

Ву	
Director	Date
STATE OF <u>UTAH</u>	)
	) ss:
COUNTY OF SALT LAKE	_>
On the day of Ja	anuary , 19 <u>90</u> , personally
	by me duly sworn did say that he/she,
_	is the Director
of the Division of Oil, Gas and	
Resources, State of Utah, and h	ne/she duly acknowledged to me that
he/she executed the foregoing o	locument by authority of law on behalf
of the State of Utah.	
	Notary Public
	Residing at:

OFERATOR.	
Ву	January , 1990
Corporate Officer - Position	
STATE OF	)
	) ss.
COUNTY OF	)
appeared before me Paul F. Sch me duly sworn did say that he/she is the Chairman and duly acknowledged that said in	nuary , 1990 , personally who being by the said Paul F. Schutt of Nuclear Fuel Services, Inc. instrument was signed on behalf of bylaws or a resolution of its boardaly acknowledged to me that said
	Notary Public Residing at:

My Commission Expires:

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SURETY:	
Surety Company	<u>-</u>
Company Officer - Position	Date
STATE OF)	
COUNTY OF	ss:
appeared before me duly sworn did say that he/she, t	
and duly acknowledged that said i said company by authority of its	nstrument was signed on behalf of bylaws or a resolution of its board duly acknowledged to
	Notary Public Residing at:
Mar Committee Transition	

My Commission Expires:

NOTE: An Affidavit of Qualification must be completed and attached to this form for each authorized agent or officer. Where one signs by virtue of Power of Attorney for a company, such Power of Attorney must be filed with this Contract.

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## APPENDIX A

The Tony M and Lucky Strike Mines are located in the SE 1/4, SW 1/4 and SW 1/4, SE 1/4, Section 16, T. 35 S., R. 11 E., and NE 1/4, NW 1/4 and NW 1/4, NE 1/4, Section 21, T. 35 S., R. 11 E. Also set apart from the disturbed area is a mine waste water disposal facility which is located in the SW 1/4, NE 1/4 and SE 1/4, NE 1/4, Section 17, T. 35 S., R. 11 E., Garfield County, Utah.

A map of suitable scale depicting actual disturbed areas of the mining operation has previously been filed with the Division of Oil, Gas and Mining and is identified as "Map #7-TM-7."